



SEQUENCE LISTING

<110> Richards, Nigel Gordon John
Chang, Christopher Harry
Peck, Ammon B.

<120> Polynucleotides Encoding Oxalate Decarboxylase from *Aspergillus*
Niger and Methods of Use

<130> UF-314XC1

<140> US 10/644,123

<141> 2003-08-20

<150> US 60/404,892

<151> 2002-08-20

<160> 10

<170> PatentIn version 3.2

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<213> *Aspergillus niger*

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          20           25           30
Val Asp Ala Ile Gly Glu Gly His Glu Pro Leu Pro Trp Arg Met Gly
          35           40           45
Asp Gly Ala Thr Ile Met Gly Pro Arg Asn Lys Asp Arg Glu Arg Gln
          50           55           60
Asn Pro Asp Met Leu Arg Pro Pro Ser Thr Asp His Gly Asn Met Pro
          65           70           75           80
Asn Met Arg Trp Ser Phe Ala Asp Ser His Ile Arg Ile Glu Glu Gly
          85           90           95
Gly Trp Thr Arg Gln Thr Thr Val Arg Glu Leu Pro Thr Ser Arg Glu
          100          105          110
Leu Ala Gly Val Asn Met Arg Leu Asp Glu Gly Val Ile Arg Glu Leu
          115          120          125
His Trp His Arg Glu Ala Glu Trp Ala Tyr Val Leu Ala Gly Arg Val
          130          135          140
Arg Val Thr Gly Leu Asp Leu Glu Gly Gly Ser Phe Ile Asp Asp Leu
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Glu Glu Gly Asp Leu Trp Tyr Phe Pro Ser Gly His Pro His Ser Leu
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 Gln Gly Leu Ser Pro Asn Gly Thr Glu Phe Leu Leu Ile Phe Asp Asp
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 Gly Asn Phe Ser Glu Glu Ser Thr Phe Leu Leu Thr Asp Trp Ile Ala
 195 200 205
 His Thr Pro Lys Ser Val Leu Ala Gly Asn Phe Arg Met Arg Pro Gln
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 Thr Phe Lys Asn Ile Pro Pro Ser Glu Lys Tyr Ile Phe Gln Gly Ser
 225 230 235 240
 Val Pro Asp Ser Ile Pro Lys Glu Leu Pro Arg Asn Phe Lys Ala Ser
 245 250 255
 Lys Gln Arg Phe Thr His Lys Met Leu Ala Gln Glu Pro Glu His Thr
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 Ser Gly Gly Glu Val Arg Ile Thr Asp Ser Ser Asn Phe Pro Ile Ser
 275 280 285
 Lys Thr Val Ala Ala Ala His Leu Thr Ile Asn Pro Gly Ala Ile Arg
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 Glu Met His Trp His Pro Asn Ala Asp Glu Trp Ser Tyr Phe Lys Arg
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 Gly Arg Ala Arg Val Thr Ile Phe Ala Ala Glu Gly Asn Ala Arg Thr
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 Phe Asp Tyr Val Ala Gly Asp Val Gly Ile Val Pro Arg Asn Met Gly
 340 345 350
 His Phe Ile Glu Asn Leu Ser Asp Asp Glu Glu Val Glu Val Leu Glu
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 Ile Phe Arg Ala Asp Arg Phe Arg Asp Phe Ser Leu Phe Gln Trp Met
 370 375 380
 Gly Glu Thr Pro Gln Arg Met Val Ala Glu His Val Phe Lys Asp Asp
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<213> Aspergillus niger

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Gly Asp Gly Ala Thr Ile Met Gly Pro Arg Asn Lys Asp Arg Glu Arg
          35          40          45

Gln Asn Pro Asp Met Leu Arg Pro Pro Ser Thr Asp His Gly Asn Met
          50          55          60

Pro Asn Met Arg Trp Ser Phe Ala Asp Ser His Ile Arg Ile Glu Glu
65          70          75          80

Gly Gly Trp Thr Arg Gln Thr Thr Val Arg Glu Leu Pro Thr Ser Arg
          85          90          95

Glu Leu Ala Gly Val Asn Met Arg Leu Asp Glu Gly Val Ile Arg Glu
          100          105          110

Leu His Trp His Arg Glu Ala Glu Trp Ala Tyr Val Leu Ala Gly Arg
          115          120          125

Val Arg Val Thr Gly Leu Asp Leu Glu Gly Gly Ser Phe Ile Asp Asp
          130          135          140

Leu Glu Glu Gly Asp Leu Trp Tyr Phe Pro Ser Gly His Pro His Ser
145          150          155          160

Leu Gln Gly Leu Ser Pro Asn Gly Thr Glu Phe Leu Leu Ile Phe Asp
          165          170          175

Asp Gly Asn Phe Ser Glu Glu Ser Thr Phe Leu Leu Thr Asp Trp Ile
          180          185          190

Ala His Thr Pro Lys Ser Val Leu Ala Gly Asn Phe Arg Met Arg Pro
          195          200          205

Gln Thr Phe Lys Asn Ile Pro Pro Ser Glu Lys Tyr Ile Phe Gln Gly
          210          215          220

Ser Val Pro Asp Ser Ile Pro Lys Glu Leu Pro Arg Asn Phe Lys Ala
225          230          235          240

Ser Lys Gln Arg Phe Thr His Lys Met Leu Ala Gln Glu Pro Glu His
          245          250          255

Thr Ser Gly Gly Glu Val Arg Ile Thr Asp Ser Ser Asn Phe Pro Ile
          260          265          270

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Ser Lys Thr Val Ala Ala Ala His Leu Thr Ile Asn Pro Gly Ala Ile
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 Arg Glu Met His Trp His Pro Asn Ala Asp Glu Trp Ser Tyr Phe Lys
 290 295 300
 Arg Gly Arg Ala Arg Val Thr Ile Phe Ala Ala Glu Gly Asn Ala Arg
 305 310 315 320
 Thr Phe Asp Tyr Val Ala Gly Asp Val Gly Ile Val Pro Arg Asn Met
 325 330 335
 Gly His Phe Ile Glu Asn Leu Ser Asp Asp Glu Glu Val Glu Val Leu
 340 345 350
 Glu Ile Phe Arg Ala Asp Arg Phe Arg Asp Phe Ser Leu Phe Gln Trp
 355 360 365
 Met Gly Glu Thr Pro Gln Arg Met Val Ala Glu His Val Phe Lys Asp
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<213> Aspergillus niger

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<223> Anticipated N-terminal sequence of oxalate decarboxylase of
Aspergillus niger

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<212> PRT

<213> Bacillus subtilis

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20 25 30

Asp Met Leu Val Pro Pro Glu Thr Asp His Gly Thr Val Ser Asn Met
35 40 45

Lys Phe Ser Phe Ser Asp Thr His Asn Arg Leu Glu Lys Gly Gly Tyr
50 55 60

Ala Arg Glu Val Thr Val Arg Glu Leu Pro Ile Ser Glu Asn Leu Ala
65 70 75 80

Ser Val Asn Met Arg Leu Lys Pro Gly Ala Ile Arg Glu Leu His Trp
85 90 95

His Lys Glu Ala Glu Trp Ala Tyr Met Ile Tyr Gly Ser Ala Arg Val
100 105 110

Thr Ile Val Asp Glu Lys Gly Arg Ser Phe Ile Asp Asp Val Gly Glu
115 120 125

Gly Asp Leu Trp Tyr Phe Pro Ser Gly Leu Pro His Ser Ile Gln Ala
 130 135 140
 Leu Glu Glu Gly Ala Glu Phe Leu Leu Val Phe Asp Asp Gly Ser Phe
 145 150 155 160
 Ser Glu Asn Ser Thr Phe Gln Leu Thr Asp Trp Leu Ala His Thr Pro
 165 170 175
 Lys Glu Val Ile Ala Ala Asn Phe Gly Val Thr Lys Glu Glu Ile Ser
 180 185 190
 Asn Leu Pro Gly Lys Glu Lys Tyr Ile Phe Glu Asn Gln Leu Pro Gly
 195 200 205
 Ser Leu Lys Asp Asp Ile Val Glu Gly Pro Asn Gly Glu Val Pro Tyr
 210 215 220
 Pro Phe Thr Tyr Arg Leu Leu Glu Gln Glu Pro Ile Glu Ser Glu Gly
 225 230 235 240
 Gly Lys Val Tyr Ile Ala Asp Ser Thr Asn Phe Lys Val Ser Lys Thr
 245 250 255
 Ile Ala Ser Ala Leu Val Thr Val Glu Pro Gly Ala Met Arg Glu Leu
 260 265 270
 His Trp His Pro Asn Thr His Glu Trp Gln Tyr Tyr Ile Ser Gly Lys
 275 280 285
 Ala Arg Met Thr Val Phe Ala Ser Asp Gly His Ala Arg Thr Phe Asn
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 305 310 315 320
 Val Glu Asn Ile Gly Asp Glu Pro Leu Val Phe Leu Glu Ile Phe Lys
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 Asp Asp His Tyr Ala Asp Val Ser Leu Asn Gln Trp Leu Ala Met Leu
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<210> 10
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<213> *Aspergillus niger*

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